AMENDMENTS

In the Claims

The following is a marked-up version of the claims with the language that is underlined ("___") being added and the language that contains strikethrough ("—") being deleted:

1. (Currently Amended) A method for determining paths between a start node and an end node of a communication network, the communication network being formed of sub-networks, the sub-networks having connectors and segments, the segments interconnecting various ones of the connectors, the start node corresponding to one of the connectors and the end node corresponding to another of the connectors, said method comprising:

storing, in a topology database, information corresponding to connectors and segments of the communication network;

receiving, from an operator, information corresponding to the start node and the end node;

receiving, from the operator, information corresponding to a type of connector of interest; and

in response to the information received, automatically determining a shortest path between the start node and the end node based upon the type of connector of interest ~~and irrespective of a routing or layer 2 protocol being used by a connector~~ by using only the information stored in the topology database.

2. (Previously Presented) The method of claim 1, wherein ,in determining a shortest path between the start node and the end node, a path with a lowest hop count between the start node and the end node is designated as the shortest path.

3. (Previously Presented) The method of claim 2, wherein each of the sub-networks has at least one level 2 connector, each of the sub-networks being configured to intercommunicate with another of the sub-networks via a level 3 connector, and wherein receiving information corresponding to a type of connector of interest comprises receiving information corresponding to at least one of: level 2 and level 3 connectors, and level 3 connectors.

4. (Original) The method of claim 3, wherein, when the type of connectors of interest are level 3 connectors, determining a path between the start node and the end node comprises:

identifying sub-networks associated with the start node; and

determining whether the end node is associated with at least one of the identified sub-networks.

5. (Original) The method of claim 3, wherein, when the type of connectors of interest are level 2 and level 3 connectors, determining a path between the start node and the end node comprises:

identifying segments associated with the start node; and

determining whether the end node is associated with at least one of the identified segments.

6. (Original) The method of claim 4, further comprising:

if the end node is not associated with at least one of the identified sub-networks, recursively identifying sub-networks associated with the each of the previously identified sub-networks; and

determining whether the end node is associated with at least one of the sub-networks associated with the each of the previously identified sub-networks.

7. (Original) The method of claim 5, further comprising:

if the end node is not associated with at least one of the identified segments, recursively identifying segments associated with the each of the previously identified segments; and

determining whether the end node is associated with at least one of the segments associated with the each of the previously identified segments.

8. (Previously Presented) The method of claim 3, wherein determining a path between the start node and the end node comprises:

storing a shortest path between the start node and the end node in memory as a current shortest path; and

if the type of path of interest is the shortest path between the start node and the end node, recursively determining paths between the start node and the end node based upon the type of connector of interest such that, when a newly determined path between the start node and the end node is shorter than the current shortest path, the current shortest path is replaced with the newly determined path.

9. (Currently Amended) A system for determining paths between a start node and an end node of a communication network, the communication network being formed of sub-networks, the sub-networks having connectors and segments, the segments interconnecting various ones of the connectors, the start node corresponding to one of the connectors and the end node corresponding to another of the connectors, said system comprising:

a processor;

a discovery mechanism associated with said processor, said discovery mechanism configured to generate and store topology data specifying connectors and segments of a communication network; and

a layout mechanism associated with said processor and interfaced with said discovery mechanism, said layout mechanism configured to receive said topology data from said discovery mechanism, said layout mechanism configured to drive a display based upon said topology data,

said discovery mechanism being configured to determine a shortest probable path between a start node and an end node ~~based upon~~ by using only said topology data, said shortest probable path being defined by a path with a lowest hop count between the start node and the end node ~~and without reference to routing protocols of connectors located along the path~~.

10. – 12. (Canceled)

13. (Previously Presented) The system of claim 9, wherein said probable path mechanism is configured to receive information corresponding to a type of connector of interest, and determine the shortest probable path between the start node and the end node based upon said type of connector of interest.

14. (Currently Amended) A computer readable medium having a computer program for determining paths between a start node and an end node of a communication network, the communication network being formed of sub-networks, the sub-networks having connectors and segments, the segments interconnecting various ones of the connectors, the start node

corresponding to one of the connectors and the end node corresponding to another of the connectors, said computer readable medium comprising:

logic configured to store information corresponding to a topology of the communication network;

logic configured to receive information corresponding to the start node and the end node;

logic configured to receive information corresponding to a type of connector of interest; and

logic configured to determine, automatically and in response to the information received, a shortest probable path between the start node and the end node based upon the type of connector of interest ~~and without regard to routing protocols or layer 2 protocols of connectors located along the path~~ by using only the information corresponding to the topology of the communication network.

15. (Canceled)

16. (Original) The computer readable medium of claim 14, wherein each of the sub-networks has at least one level 2 connector, each of the sub-networks being configured to intercommunicate with another of the sub-networks via a level 3 connector, and wherein the logic configured to receive information corresponding to a type of connector of interest comprises logic configured to receive information corresponding to at least one of: level 2 and level 3 connectors, and level 3 connectors.

17. (Original) The computer readable medium of claim 16, wherein the logic configured to determine a path between the start node and the end node comprises:

logic configured to identify sub-networks associated with the start node; and

logic configured to determine whether the end node is associated with at least one of the identified sub-networks.

18. (Previously Presented) The computer readable medium of claim 16, wherein the logic configured to determine a shortest probable path between the start node and the end node comprises:

logic configured to identify segments associated with the start node; and

logic configured to determine whether the end node is associated with at least one of the identified segments.